

stratum. In this species the families are composed of but very few cells, surrounded by a very large, more or less globular or elliptical mass of transparent firm jelly. The species is very closely allied to *Chroococcus turgidus*, var. *thermalis*, Rabenh., from which it differs in the outer jelly not being lamellated.

The following is the technical description of the species :—

*C. thermophilus*, sp. nov.

*Ch.* cellulis singulis aut geminis vel quadrigeminis et in familiis consociatis, oblongis vel subglobosis, interdum angulosis, haud stratum mucosum formantibus; tegumento crassissimo, achroo, haud lamelloso, homogæneo; cytoplasmate viridi, interdum subtiliter granulato, interdum homogæneo.

Diam. Cellulæ singulæ sine tegumento longitudo maxima  $\frac{1}{1500}$ "', latitudo maxima  $\frac{1}{2300}$ "'.—*Silliman's Journal*, July 1868.

*Description of two Sacculinidæ.* By M. HESSE.

The author remarks upon the importance of the habitat of parasitic Crustacea in ascertaining their identity, and states that, with but few exceptions, these animals are strictly confined to particular species of Crustacea or fishes. He describes two new species of *Sacculinidæ* parasitic upon crabs.

*Sacculinidia Gibbsii.*

Larger than the examples found on *Carcinus mænas*, being 25 millims. in length, 20 in breadth, and 10 in thickness. Its form is rounded quadrate, slightly flattened laterally; the pedicle, which is short, presents on each side two rounded protuberances, reverted towards the upper part of the body. The position of the *anal orifice* varies in consequence of the contractions of the body; it is generally placed directly opposite to the pedicle. Its construction is exactly as in the parasite of *Carcinus mænas*.

The skin is thin, showing through it the meanders of the oviferous tubes. It has a velvet-like appearance, and is very tense. The *ova* are large, oval, and contain only a single vitellus. The *eye* appears as a red spot; at the middle of the body laterally are two round black spots, which always occupy the same place. The colour of the body is very deep yellow, with a reddish-brown tinge.

The specimen was found, in January 1867, on the abdomen of an example of *Pisa Gibbsii*, where it was not protected by the carapace. M. Hesse remarks that it is singular that the *Pisa* had not freed itself from its parasite, which it could easily reach.

*Sacculinidia Herbstia nodosa* (!).

Measurements, 25×15×5 millims. Resembles the parasite of *C. mænas* in form, but presents laterally two horizontal expansions, one forming a cylindrical process, the extremity of which is curved downwards like a hook. Anal aperture placed at the middle of the

lower part of the body. Pedicle long, and much dilated at base. Colour light yellow. Found, in November 1867, attached to the intestinal canal of *Herbstia nodosa*.

The author remarks that the Saeculinidous parasite of *C. mœnas*, after getting rid of its ova, has a very transparent envelope of a light bluish colour. Through this the body of the parasite is visible, shifted to the upper part of the envelope, close to the buccal orifice and pedicle; it is opaque, and of a yellow colour. After a time the parasite dies, shrivels, and becomes detached, when its former position is indicated only by a chitinous ring. From this, flat squamous corneous pieces are seen to radiate towards the centre: these have denticulated margins: they leave at the centre an oval orifice, establishing the communication between the parasite and its victim. These parts are probably moveable, and may, by rising or sinking, alter the size of the orifice. In course of time all these traces of the presence of the parasite become obliterated.—*Ann. Sci. Nat. sér. 5. tome viii. pp. 377–381.*

#### *On the Calamites and Fossil Equiseta.*

By M. SCHIMPER.

M. Schimper has referred to the Equisetineæ of the Carboniferous, Triassic, and Jurassic periods, and has endeavoured to prove that the Calamites ought to have their place in that group of vascular Cryptogamia, not only because of the external and internal structure of the stem, but also because of their organs of fructification, which show a great analogy with those of the *Equiseta* of the present epoch. He has shown that the fossil spikes that were taken for spikes of Calamites, and which are remarkable for their great resemblance to the catkins of the Lycopodiaceæ, do not belong to the Calamites, but to *Annularia* and *Sphenophyllum*, fossil genera which establish the passage from the *Equiseta* to the Lycopodiaceæ.

M. Schimper has also proved, by means of some fine specimens and a number of drawings, that all the fossil trunks of the Bunter Sandstone, of the Keuper, and of the Rhætic strata, that had been designated under the names of Calamites, belong to the genus *Equisetum*.

The trunks of these gigantic *Equiseta* had a diameter of more than 12 centimetres and a height of from 8 to 10 metres; the branches which adorned the higher parts of them, in the form of a crown, were simple, and bore at their extremity a spike of the size of a pigeon's egg and organized exactly like the spikes of our living *Equiseta*. The subterranean rhizomes were well developed, and gave origin, like those of many of our *Equiseta*, to tubercles which had the form and size of a hen's egg.

According to M. Schimper, *Equisetum columnare* (Brongn.), of the Oolite of Scarborough, is specifically different from the homonymous species of the Keuper.—*Société d'Hist. Nat. de Strasbourg, Feb. 5, 1868; Bibl. Univ. Aug. 15, 1868. Bull. Sci. pp. 325–326.*